

CLAIMS

1. A polymer-supported Lewis acid catalyst comprising a Lewis acid group expressed by the following general formula (I):



(wherein M represents a polyvalent element, X represents an anionic group, and n is an integer representing the valence of M) linked and supported on a polymer film via a SO₃ or SO₄ group.

2. The polymer-supported Lewis acid catalyst according to claim 1, comprising the Lewis acid group expressed by the following general formula (II):



(wherein M represents a polyvalent metallic element, X represents an anionic group, n is an integer representing the valence of M, and R° represents a SO₃ or SO₄ group) linked and supported on a polymeric chain via a spacer chain.

3. The polymer-supported Lewis acid catalyst according to claim 2, wherein the spacer chain is a hydrocarbon group.

4. The polymer-supported Lewis acid catalyst according to claim 3, wherein the spacer chain is expressed by the following general formula (III):



(wherein Ph represents a phenyl group, and m and l each represent

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an integer greater than or equal to 1.)

5. The polymer-supported Lewis acid catalyst according to any one of claims 1 to 4, wherein the polymeric chain comprises a polymer obtained by the addition polymerization of aromatic monomers.
 6. The polymer-supported Lewis acid catalyst according to any one of claims 1 to 5, wherein the polyvalent element (M) is a lanthanoid element.
 7. A method of organic synthesis using the polymer-supported Lewis acid catalyst according to any one of claims 1 to 6, wherein the reaction is performed in water or an aqueous medium.
 8. The method of organic synthesis according to claim 7, which comprises the formation of a carbon-carbon bond.
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